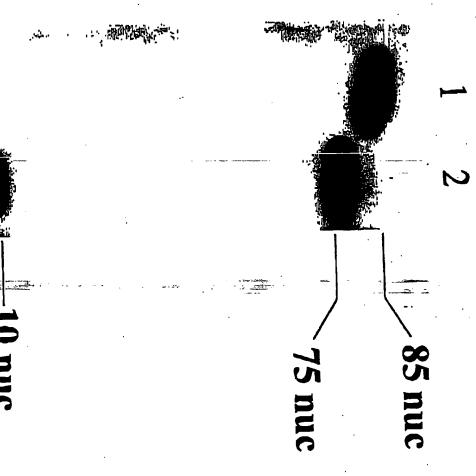
## In the drawings:

The attached sheet of drawings includes changes to Figure 1. This sheet replaces the original sheet of Figure 1.



## Recombinant Porphyromonas gingivalis RNase P



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FIG. 1

SEQ ID																								
NO.	Residue Number		10	11 12	2 13	14	15	16	17 1	8 19		46	47	48 49	9 50	51	52	53 54	55	56	57	58 5	9 60	61
	Gram Negative Bacteria gamma purple																							
39	Escherichia coli (119)		L	£\	] L	Т	P	s	Q [	Т		Till _	I	(2) L	Т	V	Αſ	7. 15	N	v	R	RГ	Ή	E
40	Proteus mirabilis (119)		L	4_1	L	T	P	ĸ	н	N		[3]	Ι	3 L		100000	А	14 1:	N	٧	ĸ	R .	Н	E
41	Haemophilus influenzae (136)		L	K 1	L	T	P	I	Q	ĸ	***	F		: L			А	40 15	н	L			<u>. Н</u>	
42	Pseudomonas putida (133)		K	K 1	L	T	P	R	н	K		k		G L		图	G	2550 2550	S	V	K		100000000	Q
43	Buchnera aphidicola (114)			K	L	K	S	T	1	E Q		X		L		1377114		<b>R</b> ::	N	I	K	- 1		R
44 45	Salmonella typhi (119) Yersinia pestis (119)		L L	R I	L	T T	P P	A S	Н	Т		다. 기간	I	L		O cobin	A A	KK	N H	V V	R K	R	H	
46	Klebsiella pneumoniae*		L	R I	L	Т	P	s		T		F	I	o L			A	M. E	N	v			М Н	
47	Salmonella paratyphi*		ī	RI	1	A	T	s	T -				I	13 L		1 1	A	K K		V			i i	E
48	Vibrio cholerae*		L	F. I	L	T	P	E	н	Q Q		F	L	G L			P	K K	Q	1	ĸ	T .	4	G
49	Pseudanonas aeruginosa*		K	7	L	T	A	R	Q	្ឋាន		F	L	C L			G	A A		V		L	استسموا	Q
50	Shewanella putrefaciens*		L	3	L	T	P	A	Ω .	K		<u></u>	L	L	T	¥	A	i: R	Y	V	K	R L	<u>'</u> } Ν	Q
	alpha purple		f. <b>7</b>	137	<b>E</b> D	m	m	n	e [		4	n			, ,,	573	e f		a N	17	Б	ν <sub>Γ</sub>	. 77	W
51 52	Coxiella burnetii (121) Rickettsia prowazekii (121)		W T	s :	-	T N		A K		R	•••	Lili	_	U T			S	R	i .	V N	R K	1		V
53	Caulobacter crescentus*		E	و الترا	=4	К	R	P	- 100	î L		Z _	v	.3 F		A	т		•	I	G		:sa- od	E
	epsilon purple				J						,					ليتونيها	•		•					
54	Heliochaster pyloni 26695 (161)		D	s	K	N	K	s	E	D		<b>K</b>		L L			s	11 2	] -	V	G	и	8 1 4	K
55	Helicobacter pylori J99 (161)		D	s	ļк		K	s		D D		K	L	.5 L	S		s	K.A	-	٧		<b>—</b>	രാഷ മോഗ	K
56	Camphylobacter jejuni*		D	K	S	T	N	E	E [	S		K	I	ΑV	v	A	S	1. 1.	] -	V	G	K _	<u> </u>	V
57	beta purple		Y	B 1	Jь	к	т	D	D [	s s	1	ā	I	ं L	. V	TEI.	G [	XK	1 т	A	к	ъ Г	N [.	E
58	Neisseria gonorrhoeae* Neisseria meningitidis*		Y	39 .		K	T	D		s		Ht	I	GI			G	KK		A				E
59	Bordetella pertussis*			P, /I			P	s	E	A		1		3 L		Contractor.		¹( €R	F		Α	P *	٠	T
60	Thiobacillus ferrooxidans*		D	3 2	R	Q	K	v	A	Q		<u></u>	L	i I	A		s	R	] -	V	G	и	<u> </u>	V
	Gram Positive Bacteria																							
	high G & C				<b>=</b>	_	_	_	_ =	<b>=</b> -	i	=		<del></del> -			_ [				_	~ [		
6 <u>1</u> 62	Streptomyces bikiniensis (123)		Ñ N	K I	T R	R R	R R	E E		F A		K	A	G F			S	K A		V V	G G	- 1	7	V V
63	Streptanyaes coelicolor (123) Microscous luteus (132)	•••	R	AS	- J	Т	P	A	E	- 1		R		ء د F		1	s	A	_	v			V F	T
64	Machaeterium tuberculosis (125)		N	T.	333	R	s	A		EE	1	X _	37	3 L		12000012	A	i s	_	v		s	1. 1	Ē
.65	Mycobacterium leprae (120)		N		R	R	s	s	E	Ē D		ЭH _	v	G L	. I	团	А	T T	-	V	G	s	. V	E
66	Mycobacterium bovis (115)		N	R	3	R	s	Α	D :			R		O I		-	Α	K S	-	٧	G		al	E
67	Mycobacterium avium*		N	R	-	R	S	T	1	F D		'R	. v	G L		1 1	G	* A		V	G	T .		Q
68	Corynebacterium diphtheriae*		Н	K.	Js	N	s	E	δΓ	R		R	F	G L	. ν	17	s	<u>K</u> ] -	A	V	G	N L	4 Y	Т
73	low G & C Bacillus subtilis (119)		N	fs.	٦ĸ	к	N	Ε	DΓ	ΠQ	-	R	v	G 1	s	ΓVI	s	KK	} _	I	G	NΩ	<u>a 7</u>	м
74	Bacillus halcdurans (118)			上屬			s	D	1	s		R _	٠'	- لتا ا		1 (	s	KK		Ī		- 1		T
75	Bacillus anthracis*		Н	1 3535	K	K	N	D	E	E Q		R	т!	O L	s		s	KK		I	G	N		v
76	Mycoplasma capricolum (102)		R	v Si	ļк	K	N	F		Q		K .	Y			V	G	3 4	] -	I			17	I
77	Mycoplasma pneumoniae (118)			EH :	1	D	R	K		ī A		R	. А	A) V		P. 333	s	T	ĸ	Y	K		5 ¥	E
78 79	Mycoplasma genitalium (128)		H	S (		E R	R E	K K	V I	T	1	.R	V	AI		26,249	A G	K K	-	Y I	K G		a. V	Q T
80	Streptococcus pyogenes* Streptococcus mutans*		Y	TRIN	K		D	K				t.	v	G L		bon se	G	TER	,	L		N	azzeen cz	v
81	Streptococcus pneumaniae*		F	R	a	R	E	ĸ		K		3	17	SIL		1 1	s	7 E	4	L	G	- 1		T
82	Staphylococus aureus NCIC*		Y	R E				A	D I	r Q		В	L	G I			s	KK		L			4. 9	L
83	Staphylococcus aureus COL*		Y	G 7	K	K	N	A	D [	[] Q		<u></u>	L	_ I	S	<i>-</i>	s	KK	-	L	G	N .	1, 1,5	L
84	Clostridium difficile*		K	G 7	K	K	D	s	D [	R		18	V	G I	S	V	s	it K	] -	V	G	K [ ]	a 219	Т
85	Cyanobacteria				7 ~	7.7	TAT	^	ь Г	el ^	1	п	E-			138	c	Λ <u>.</u>	1 17	c	ν	νli	<u> </u>	v
86	Synechocystis PCC6803 (124) Pseudanabaena PCC6903 (116)		N	R i R I	R	R	n R	E.	D i	FIA			I		· v	6	sl	.v R κ	v	S	ĸ	L	<u> </u>	T
	Spirochaete	•••	•			•	•	_	- 4		1	<b>L</b>	- 1	- ت		_	- 1		,	_	•	- 🗠		-
87	Borrelia burgdorferi (119)		I	S I	к	s	K	I	E 🕃	Q		Σ.	I	II v	т	E	s	貞 G	_	F	R	G S	s V	ĸ
88	Treponema pallidum (133)		E	RL	R	G	S	C	R 🖺	R		크	F	A	T		R	R G	-	Y	G	κ[	<u>. 7</u>	A
	Chlamydiae			<del></del>	-				_	_	,	Kibarata							,					
89	Chlamydia trachomatis (120)		A	R : R 1 R &	L	K	R	K	2	e V	-	黝	V	3 I	T	$\ \cdot\ $	S	K K	-	F	G	K	H	Q
90 91	Chlamydia trachomatis MoPh* Chlamydia pneumoniae (139)		A	2 200	J L	K	R	ĸ		Į V		쒸 -	. V	G V	T		5	26 ec	]	E,	G	K I	Н	Q E
<i>)</i> <u>+</u>	Thermotoga	•••																						
69	Thermotoga maritima (117)	•••	E	Rt	R	L	R	R	D []	L		R	L	T I	v	[7]	к	R I	] -	F	G	κ[ <i>i</i>	T	R
	Bacteroides																							
70	Porphyrononas gingivalis*		E	R 1	Y	L	R	D	E 🔯	N		s	М	V V	S	V	A [	KK	R	F	R	R [	<u>, 7</u>	ĸ
	Deinococci			later Later	٦ _	_	_	_		<b>-</b>	1		_ 1			ستا	ر ر		ì "			,, r	, ,,,,,	
71	Deinococus radiodurans*  Green-Sulfur		-	- 🔀	J R	G	E	к	E [	IJ R	l	it	I	الكا ل	. v	لنا	5 [	K K	J T	L	K	нГ	1	ĸ
72	Chlorobium tepidum*		A	11.	٦ĸ	G	G	_	- r	ı.	ſ	X]	v	TA F	• т	ल	G۱	K K	l L	v	P	вΠ	্ সূ	D
	% Identity		••	79 70	. · )	-	-		8	9 ~	(	83		85	_	72	- 1	89 70	_	-	-	9	8 70	_
	-																							



## FIG. 1 Continued

SEQ ID NO.	Residue Number <sup>®</sup> Gram Nagativa Bacteria	62 63	64	65 66	67	68	69 70 1	71	- 80 -	· _	84 -	85 – -	- 86	87 .	_ 101 1	.02 10	03 10	4	105	5 <u>.</u>
	gamma purple																			
39	Escherichia coli (119)		R	I	٠.	L	T 🔝	E _	-[7]-	· _[	-	F	-[기	ν.		s E	E A		1,	]
40	Proteus mirabilis (119)	300 E 1000	R	I.		L	A :	E _	-[ · ] -	ا - ا	_3] -	F	-	٧.		T F	e v	- <del>-</del> -	j.	,
41	Haemophilus influenzae (136)		R	I	٠. ا	L	V Z	E _	-     -	· _	-	F	- 1	F.	F	A (	2 1			J
42	Pseudomonas putida (133)	9 N	R	- 1	- 1	L	1 1	D _	-	· -	- 1	I	1 1	I.			Э Н		F	-
43	Buchnera aphidicola (114)	] F _ K		I	P		1 1	E _	-   -		-	F	7	٧.	- P- ~ I	v i				
44	Salmonella typhi (119)	X		I	, it		F 1	E _	-	}	. 4 -	F		٧.	- b - 4	S				, -
45	Yersinia pestis (119)	10	R	1	- F.			E _	-   -	· -		F		ν.	-1 1	T F				
46	Klebsiella pneumoniae*		R	- 1	*		1 1	E _	-     -	-	]-	F		V .	-1 1	SE				
47	Salmonella paratyphi*	- 11 - N	1	I	y.	L	1 1	E _		-		F		V.	- 1	S F		· ·		-
48 49	Vibrio cholerae* Pseuchmonas aeruginosa*			L	~ 1		1 1	E _		_	b -	I	l vi	v .	~ b   l		Q Q		- P	 2
50	Shewanella putrefaciens*		R	īl:			1 1	D _	- Z -		D -	T		v .	-) 1		K L		L	<b>1</b> "
	alpha purple					•	- (22)	_	200			_					-		-	M
51	Coxiella burnetii (121)		R	VR		v	v 🖹	E _	-[1]-	[	<b>a</b> –	I	- 17	v.		Y E	E C		I	1
52	Rickettsia prowazekii (121)	20 -25 0102	к	I	<b>-</b>		2000	н _	- S N	-		I	1	I.		Q Y	Y E			٦
53	Caulobacter crescentus*	1 50	R	AL		R	LE	E _	P H	] _ ا	<u> </u>	Y		F.	_ [	L I	D D	VK	. A	]
	epsilon purple												_							_
54	Helicobacter pylori 26695 (161)	9 18	L	I	Ī	R	1 1	s "	- C Q			r		F.	- 1			FL		
55	Helicobacter pylori J99 (161)	4 10	L	I :			1 1	s _	- C 0		A -		horani.	F.	- 1			FL		
56	Camphylobacter jejuni*		R	s 📑	₽,	1	L	A _	-[] Q	2 _	к -	Y	T]	F.	لنا-	E F	K N	LK	₹ G	]
	beta purple		١				- []	_		•		_	<del></del>		R.ET				F -	٦
57	Neisseria gonorrhoeae*	F 16	Y	- 1	1		1 1	D _	7 4 -	· -	– اد	F	\*\	٧.		R A			-   - -   <u>.</u>	-
58	Neisseria meningitidis*	1	Y	M S	il		1 1	D _	- I I -	: -	:/[	Y	1.1	V .	- 10-00	R A K B		ARA	2372	4
59 60	Bordetella pertussis* Thiobacillus ferrooxidans*		1	ī.				E _ E _	- T -	-	a -	1	五]	v .	71727		A Y		, -	9
00	Gram Positive Bacteria	<u></u>	Α.	<u> </u>		K	n [ :::]	E _	- 1 -	- 1	-31 -	V	(81113	٠.	التشماء	9 1				J
	high G & C																			
61	Streptomyces bikiniensis (123)		Q	v 🛚 🔞	[:	R	L	н _	- I P	,	L -	v	Ţ)	v .	L	A E	R D		12	7
62	Streptomyces coelicalor (123)		ĸ			R	1 1	н _	井			v	片.	v .		A I			يد – -	i
63	Micrococcus luteus (132)		R	v .		R	1 1	A _	- 1 P		V L	v	- Q	v .	5		R E	TVO	A .	]
64	Mycobacterium tuberculosis (125)	H	R	V A	ן יין	R	LEL	н _	- 1 H	ı _ [	ЭН	v	· [Ÿ]	1	[ ]	E (	Q		7	]
65	Mycobacterium leprae (120)	F H	R	V A	12	R	r [3]	н _	- [ I G	; _ [	ံ Q	v	{∵}	Ι.	1	A (	Q		I. I.	]
66	Mycobacterium bovis (115)	一进	R	V A	D.	R	L R	н _	- L H	ا _ ا	DН	v	-{ ʊ	I.	_[ II ]	Е (	Q	- <b>-</b> -	T.	
67	Mycobacterium avium*	H.	R	V A	1 1		1 1	н _	- 1. E	- [		L	۱Ÿ	I.	- J		2 E		L	
68	Corynebacterium diphtheriae*	H,	R	v s	لعا	Q	r [3]	н _	- 20 -	_	н -			ν.	<u> </u>	R A	A D	VQZ	A A	]
	low G & C		١ _	(			- (-)		<u> </u>				CHICK!	_	_				<del></del>	3
73	Bacillus subtilis (119)		R		- 1		1	Q _	- 1. K	1	•	Y	1	Ι.	****	K			}	
74	Bacillus halodurans (118)	1 h		V X	ſ		1 1	T -	- I S	- 1	ι	Y			prom	K				-
75 76	Bacillus anthracis* Mycoplasma capricolum (102)	-	R K	,	_ R	M Q	1.1	Q _ M _	- I D - I G		) <del>-</del>	F	N.	I.	- p - f	K I S I			- I	
76 77	Mycoplasma pneumoniae (118)		L		3 1		187	м _ А _	- 1 N		5 -	v		v .		o i			- F	4
78	Mycoplasma genitalium (128)	4 11		I			-014	s _	- L E	- 1	ן -	ĭ	豐	v .		Q F			E	1 -
79	Streptococcus pyogenes*	1 1		V 17	- 1	ĸ		н_	- 7 K		5 -	F	罚	v		Q (				1
80	Streptococcus mutans*			I	P	K	1 4	н _	- I G	- }	–	F	- v	v .	Sec. 9.5	K F			7	1
81	Streptococcus pneumoniae*	10 10	Q	IK	쉆	R	I a	н_	-   :   v	- 1	- اد	F	- 2	v .	60	E F	K N	- <b>-</b> -	т.	1
82	Staphylococcus aureus NCTC*	11	ĸ	I .	i.	A	I	E _	- A L		.: -	I		v.	Į.	Q 1	1 S		7.	1
83	Staphylococcus aureus COL*		K	I :	. : ]	A	I	E _	-[I] L	· - l	9 -	I	·i	V.	ī	1 Q	ı s		- <u>y</u>	<b>]</b>
84	Clostridium difficile*		R	VR	<u> </u>	L	ΙK	E _	- I L	: _ [	그 -	I		F.	_ T	K N	1 -		[.	]
	Cyanobacteria																			
85	Synechocystis PCC6803 (124)	E0000000000000000000000000000000000000	R	L	أذر	Q	I R	Α	- Т к - т к	: _ L	<u> </u>	v	\$ V	I.	- ២	L F	E		<u>T</u>	<u>.</u>
86	Pseudanabaena PCC6903 (116)	لــــا	R	F 🚆		Q	L R	Α	-[ ±] K		Q -	I	723	٧.	- 12	G I	D D	- <b>-</b> -	- 22	<u></u>
	Spirochaste			_ 1559		_	_ G38	_	r=1_	r		_	PERM	_	E*				Programme and the second	3
87	Borrelia burgdorferi (119)		R	IR	131	L	FIR	E _	- 7. E	-	2 -	I	3	F .	- [a]	E 8	5 L		M	<b>4</b>
88	Treponema pallidum (133)	لنسا	R	ACR	177	ь	SIM	E _	-LL V	_ L	- الك	ь	ت	ր .	لنا	r (	. v			J
89	Chlamydia trachamatic (120)		ъ	-		т.	77 C	E.			ο -	v	T V	т	TV.	e =			D Tare	3
90	Chlamydia trachomatis (120) Chlamydia trachomatis MoPn*	, i	K		3	T	V	- -		<b>-</b>	0 -	V	]	v -	1 1	0 E	ם נ	T. T. F	CH 3	] -
90 91	Chlamydia pneumoniae (139)	- B - C - C - C - C - C - C - C - C - C	S	F		v	v	 E	- i		0 -		ارتا	v .		L	ם כ	FTN	10 5	1 -
91	Thermotoga		J	- [		٠	ن ٠			-	<b>~</b> -		لئا	٠.	لننا	-	ע י		· 45.2	J
69	Thermotoga maritima (117)	7	к	L 3	92	W	v 🖃	E	-[I] -	[	.DI -	ı	- V	v	·v.	R F	. к			1_
	Bacteroides										_									
70	Porphyromonas gingivalis*	,	R	v 🔣	ŝ	L	v R	E _	-[L]-	_ [	্র –		4	L .	j.	P [	F	RTV	E R	
	Deinococci.																			
71	Deinococcus radiodurans*		R	A R	13	R	v 🗔	E _	-[] L		R -	A	Ĭ	L.		A C	) A	LQF	GA	]
	Green-Sulfur																			
72	Chlorobium tepidum*		R	IK	R	L	M	E _	- <u>₹,</u> т	· _ [	ын	Q	Ÿ			E F	R F	RAI	R H	
	% Identity	100 89		79	100		91		74		75		77		68				74	